EXHIBIT 608

U.S. DISTRICT COURT OF THE

SOUTHERN DISTRICT OF WEST VIRGINIA

CHARLESTON DIVISION

KATHY McCORNACK, et al., Plaintiffs,	)	
vs.	)	NO. 2:09-cv-0671
ACTAVIS TOTOWA, LLC, et al., Defendants.	)	Related MDL Case No. 2:08-md-1968

Deposition of C. ALAN BROWN, M.D., taken on behalf of the Plaintiff, at 206 E. Victoria Street, Santa Barbara, California, beginning at 1:50 p.m. and ending at 4:10 p.m., Wednesday, August 10, 2011 before DENA BROOKS, Certified Shorthand Reporter No. 3113.

PLAINTIFFS' EXHIBITS 011451

APPEARANCES:

For the Plaintiff:

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For the Mylan Defendants:

SHOOK, HARDY & BACON
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TUCKER, ELLIS & WEST, LLP
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I N D E X

W I T N E S S: C. ALAN BROWN, M.D.

E X H I B I T S

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PLAINTIFFS' EXHIBITS 011453

SANTA BARBARA, CALIFORNIA

WEDNESDAY, AUGUST 10, 2011

1:50 P.M.

C. ALAN BROWN, M.D.,

having been first duly sworn by the reporter,

was examined and testified as follows:

EXAMINATION

BY MR. KILPATRICK:

Q Good afternoon, Dr. Brown. Have you been deposed before?

A Yes, I have.

Q How many times?

A Approximately 30.

Q What's the most recent deposition you've taken?

A Last week.

Q So, you are familiar with the procedures of a deposition?

A Yes.

Q And you understand that your testimony today can be used in court?

A Yes.

Q Very well. Let me see if we can just get an agreement about a couple of things.

PLAINTIFFS' EXHIBITS 011454

One is, would you agree to give me full and complete responses to my questions?

A As much as I'm able. Yes.

Q Okay. And the other is, if I interrupt you for any reason before you're able to give me your response, would you just let me know that you have not finished your response?

A Yes.

Q Very good. Do you have any questions before we start?

A No.

Q What is your expertise in this case?

A Well, I am a clinical and interventional cardiologist practicing here in the Santa Barbara.

Q Could you explain what those terms mean? What do you mean, a "clinical cardiologist"?

A As a clinical cardiologist, I care for patients with a variety of cardiovascular diseases, as well as complaints or symptoms that may be due to cardiovascular diseases, ranging from irregular heart rhythm, such as atrial fibrillation, to patients with coronary artery disease, high blood pressure or hypertension, myocarditis with inflammatory heart diseases. The general spectrum of what we term "clinical cardiology."

As an interventional cardiologist, I perform

PLAINTIFFS' EXHIBITS 011455

coronary angioplasty, the balloon procedure to relieve blockages of the heart arteries. That -- those same procedures often involve implantation of coronary stents.

Q Okay. Is that your expertise in this case, as a clinical and interventional cardiologist?

A Yes.

Q Have you ever served as an expert in any other capacity in any case?

MS. AHERN: Objection.

THE WITNESS: Well, I've served as an expert in medical-legal cases, if that's what you mean.

BY MR. KILPATRICK:

Q Sure. As something other than cardiologist?

A No. I misunderstood. No. Each time as a cardiologist.

Q And who were you retained by in this case?

A I was initially retained by Ms. Ahern, who was representing Shock, Hardy and Bacon.

Q And initially, do you mean someone -- were you retained by someone else subsequently?

A I don't believe so. My understanding is that there are other law firms that are representing various defendants in this case.

Q And when did Ms. Ahern's firm first contact you about working on this case?

PLAINTIFFS' EXHIBITS 011456

MS. AHERN: Objection.

THE WITNESS: I believe it was in mid 2009.

BY MR. KILPATRICK:

Q Do you know if you are generally retained by defense law firms or plaintiff's law firms?

A In the medical malpractice cases in which I've served as an expert, is that what you're referring to? ?

Q In any legal case.

A I would say the ratio works out to roughly 70 percent for the defense and 30 percent for the plaintiff in medical malpractice cases.

Q Have you served as an expert in cases other than in med mal cases?

A I have served as a treating physician in the -- in a murder case, and I've served as a -- I don't know what the term would be, but I was asked to testify as an expert in a civil case that involved litigation -- contract litigation between the Diagnostic Imaging Center and General Electric.

Q Just those two cases that were not medical malpractice cases?

A To my knowledge, sir, yes. To my recollection, I should say.

Q What was the last case you served in as an expert?

PLAINTIFFS' EXHIBITS 011457

A Well, the case that I mentioned where I gave the deposition last week.

Q What case was that?

A The name of the case is Dressel versus Zebrack.

Q Can you spell the "Zebrack"?

A Z-E-B-R-A-C-K.

Q Who has retained you in that case?

A It was the firm of Neil, Dymott. DYMOTT.

Q Do you recall who the plaintiff's firm is in that case?

A I believe her name is Law, L-A-W.

Q You don't remember her first name?

A No.

Q Is that filed here in Santa Barbara?

A No.

Q Where is that case pending?

A I don't know exactly where it's pending. My deposition was given in Temecula. I think the case involves that general area.

Q Do you know how much money you've been paid so far in this case?

A Approximately, yes.

Q How much would that be, approximately?

A It's approximately $10,000.

Q Had you previously worked for anybody at the

PLAINTIFFS' EXHIBITS 011458

Shock, Hardy firm or been retained by anyone at the Shock, Hardy firm?

A Yes.

MS. AHERN: Objection.

BY MR. KILPATRICK:

Q How many times; do you know?

A On one other occasion.

Q When was that, if you recall?

MS. AHERN: Objection.

THE WITNESS: I don't recall specifically. It was a number of years ago, over four years ago.

BY MR. KILPATRICK:

Q Have you ever served as an expert representing a drug company before or on behalf of a drug company?

A Now, could you be more specific there?

Q Sure. Have you ever been retained by a law firm representing a drug company to serve as an expert?

A Other than the two instances that we've already mentioned?

Q Well, one of them being this case.

A Right.

Q Correct?

What's the other one?

A It was my previous retention by the same firm of Shock, Hardy and --

PLAINTIFFS' EXHIBITS 011459

Q I see. I see. So, other than those two?
A No.
Q And do you recall the drug company that you were -- or do you recall the drug company that the Law firm was representing in that case?
MS. AHERN: Objection, it goes back more than four years.
THE WITNESS: I believe it was Bayer.
BY MR. KILPATRICK:
Q Let me hand you a document, ask if you have seen that before. I have one for you guys to share.
Do you recognize that document?
A Yes.
MR. KILPATRICK: And let me mark, then, as Exhibit 1, the Deposition Notice of Dr. Brown.
(Plaintiff's Exhibit 1 marked
for identification by the Reporter.)
BY MR. KILPATRICK:
Q And on page two of that exhibit, there's a list of documents that I asked you to bring to the deposition today. Have you had a chance to read through this list before you came here today?
A Yes.
Q And were you able to bring all the documents on the list?

A Yes.
MS. AHERN: Objection.
THE WITNESS: I was able to bring those documents that I had. Yes.
BY MR. KILPATRICK:
Q Okay. So, were there any documents that you have that would have been called for here that you didn't bring?
A No. I brought everything that I have.
Q You brought your complete file?
A Yes.
Q Thank you.
And that is contained, it looks like, in a box behind Mr. Taber, or next to you now?
A Yes. It's at the foot of my chair.
Q We'll get into that a little bit later.
Let me hand you another document that I'll mark as Exhibit 2, ask you if you recognize that.
A Yes.
(Plaintiff's Exhibit 2 marked for identification by the Reporter.)
BY MR. KILPATRICK:
Q And that is the expert report you've prepared for this case; correct?
A Yes.

PLAINTIFFS' EXHIBITS 011461

Q And let me hand you also what I'll mark as Exhibit Number 3, ask you to take a look at that, see if you recognize it.

A Yes.

(Plaintiff's Exhibit 3 marked for identification by the Reporter.)

BY MR. KILPATRICK:

Q And what's that document?

A That's an earlier version of my C.V.

Q And do you know when that was prepared?

A No, I don't.

Q There is also a C.V. attached to Exhibit 2, I understand. It's dated at the top left as May 23rd, 2011. Is this the most current version of your C.V.?

A No, it's not.

Q And what has changed since May 23rd of 2011?

A My most current C.V. includes, under the Awards category, the Bronze Star that I received for service in Afghanistan.

Q Congratulations.

A Thank you.

Q Anything else?

A No.

Q Do you have a copy of that C.V. with you today?

A Yes, I do.

PLAINTIFFS' EXHIBITS 011462

Q Could we mark that as Exhibit 4 and attach it to the deposition?

And what I will do, Dr. Brown, I don't know if you brought copies or if these are originals, but we can have the court reporter just copy these documents and get them back to you for your file.

MS. AHERN: Are you having trouble finding it?

THE WITNESS: Well, it may have gotten commingled here with the -- is it in that notebook over there?

Actually, now that I think of it, it's underneath my white jacket, because I printed it out this morning. So, I can produce that at the end of this deposition, if you like. It's in my automobile.

BY MR. KILPATRICK:

Q That would be fine.

Would you tell me, Dr. Brown, what you understood your assignment to be in this case?

A My -- I understood my assignment to be to review the clinical records for Mr. McCornack to determine the mechanism and the cause of his death, and to determine if Digoxin played any role in his death.

Q And who assigned that task to you?

MS. AHERN: Objection.

THE WITNESS: We discussed that when Ms. Ahern and I first met.

PLAINTIFFS' EXHIBITS 011463

BY MR. KILPATRICK:

Q Other than Ms. Ahern, did you speak to anybody else about your assignment prior to preparing your final opinion?

MS. AHERN: Objection.

THE WITNESS: In preparation of my declaration, I created this document, drafted it. My recollection is that before I published the final version, we had a conference call where we discussed the contents of the -- of this. I don't recall who the exact parties were on that conference call.

BY MR. KILPATRICK:

Q Were you speaking to attorneys on the conference call?

A Yes.

Q And attorneys representing the defendants in this case?

A Yes.

Q Do you remember how many people were on the conference call?

A My recollection is that there were four, counting myself.

Q Before you completed your final report, was there any subject or issue that you felt was necessary to investigate that you asked Ms. Ahern about, sort of

PLAINTIFFS' EXHIBITS 011464

beyond what she asked you to do?

MS. AHERN: Objection.

MR. TABER: Objection.

THE WITNESS: I don't understand that question.

BY MR. KILPATRICK:

Q Well, Ms. Ahern gave you -- Is it true that Ms. Ahern gave you the general assignment to review Mr. McCornack's clinical records and determine if Digoxin was the cause of death?

MS. AHERN: Objection.

THE WITNESS: Well, as I said, it was to review the clinical records to determine what, in my opinion, was the mechanism and cause of death, and then to determine if Digoxin played any role in that.

BY MR. KILPATRICK:

Q Okay. Did you feel that something was required beyond that scope, and which you felt was important to include in your report?

A Well --

MS. AHERN: Objection.

THE WITNESS: All of the opinions in this report are my opinions. Now, because I may not understand the subtleties of that question, I don't want to exclude opinions that I've expressed in this report, based on my answer. But --

PLAINTIFFS' EXHIBITS 011465

BY MR. KILPATRICK:

Q Well --

A -- to the degree I understand your answer, my opinions are in this report.

Q I'll get to that in a different way in just a little bit. That's okay.

Was there any investigation or inquiry that you wanted to pursue prior to finishing your report that you were unable to do?

MS. AHERN: Objection.

THE WITNESS: Not that I recall.

BY MR. KILPATRICK:

Q So, you feel like you did everything that you felt was necessary to render your opinion?

A Well, in the sense that I reviewed all of the medical records that were available to me, both produced by Ms. Ahern and also by your firm. So, I reviewed all of those records. And I have reviewed the depositions and other documents that were supplied to me, in order to render my opinion.

Q But, was there anything else that you thought would have been necessary before you rendered an opinion about Mr. McCornack's cause of death?

MS. AHERN: Objection.

THE WITNESS: Well, I don't -- my charge was to

PLAINTIFFS' EXHIBITS 011466

review the clinical materials that were available and to render my opinion and that's what I did.

BY MR. KILPATRICK:

Q Okay. Who provided the materials for you?

A I -- I believe the majority -- well, certainly the majority, if not all of them, have come through Ms. Ahern's office.

I do have a binder that contains materials that, it's my understanding, were provided by the plaintiff. But I, again, received those through Ms. Ahern's office.

Q As far as you know, are you going to be doing any more work on this case in the future?

MS. AHERN: Objection.

THE WITNESS: Well, if and when this case goes to trial, if there are additional depositions or declarations from medical experts, any other information that has clinical reference, I would plan to review those materials before trial.

BY MR. KILPATRICK:

Q Prior to your finalizing the report -- Strike that.

You had provided the draft report to Ms. Ahern at some point; correct?

MS. AHERN: Objection, misstates his testimony.

THE WITNESS: I'm not sure that I -- that I did. We,

PLAINTIFFS' EXHIBITS 011467

as I said, I wrote this report. I don't know that she had a copy of it before I finalized it.

MS. AHERN: And just let me interject an objection here in general. To the extent that we're going beyond what is required under Rule 26, in terms of providing information to experts, we're not going to be producing any drafts or answering any questions about drafts.

MR. KILPATRICK: Well, I don't want any drafts.

BY MR. KILPATRICK:

Q Let me ask you: Can you identify all the facts or data that any attorney provided to you, that you considered in preparing your report?

A That's a question I really don't understand. I brought all of the materials that I reviewed in the process of rendering my opinion and also drafting my report. Is that what you're --

Q Well, let's break it down a little bit.

A Okay.

Q So, everything you considered, all the written material you considered in rendering your opinion, is contained in your file here today; correct?

A Well, in the process of rendering or reaching my opinion, I relied upon my education, my training, my clinical experience. I began practice -- the practice of cardiology back in 1981 and prior to that, I had been a

PLAINTIFFS' EXHIBITS 011468

medical student, a medical resident, a research fellow and a cardiac fellow.

So, I certainly, during all of those years, reviewed many documents, many books, many journals that cumulatively have created my knowledge base that allowed me to render an expert opinion. I can't begin to list all of those things.

Is that what you're asking me to do?

Q Yes. But if you can't list it, I understand.

What about facts about this case, in particular? Who provided you facts about this case?

MS. AHERN: Objection.

BY MR. KILPATRICK:

Q Or what were the written -- Let me put it this way: What written documents did you review that contained facts that you considered about this case in forming your opinion?

A Would you like to review the materials that I brought?

Q Well, I guess --

A Because I brought those things that I reviewed.

Q And that was one angle of my first question, was are all the fact-specific information, is that contained in the file that you brought here today?

A Well, again I -- I tried to answer that earlier.

PLAINTIFFS' EXHIBITS 011469

Over my three decades of clinical practice as a cardiologist and prior to that, during my training, I -- I referred, or I reviewed, I studied any one of a number of educational materials, continuing medical education, attended lectures, conferences, that may have contributed to my knowledge base that I used to reach my opinion, if that's -- I generally don't understand your question.

Q Well, let me try to narrow it again. How about any facts about Mr. McCornack?

A No, I never -- I don't know Mr. McCornack.

Q But, you reviewed some facts, you reviewed his medical records?

A Yes.

Q And let me try to ask that question. Any factual information you have of Mr. McCornack, is that contained in the box you bought here today?

A Yes.

Q What about any information given to you, any factual information about Mr. McCornack, from any attorney in this case? Did any attorney give you any factual information about Mr. McCornack?

MS. AHERN: Objection.

THE WITNESS: To my knowledge, no information that wasn't contained in these medical records.

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PLAINTIFFS' EXHIBITS 011470

BY MR. KILPATRICK:

Q And what about the Digitek tablets that Mr. McCornack was taking, did any attorney provide you any factual information about the Digitek tablets that he was taking?

MS. AHERN: Objection.

THE WITNESS: Well, included in the materials that I have with me, I have some documentation from the FDA. I don't recall if there's product inserts about Digitek or Digitalis or other brands of the medication, but I certainly reviewed those in the past during my clinical use.

This is a medication that I have used and continue to use frequently. So, over the course of my clinical practice, I review the PDR frequently. That's in the context of taking care of patients, not specifically with reference to Mr. McCornack.

BY MR. KILPATRICK:

Q Well, how about any factual information about the Digoxin tablets produced by Actavis?

MS. AHERN: Objection.

BY MR. KILPATRICK:

Q Is all the written documents, everything you know about the Actavis Digitek tablets, is that in your file that you brought here today?

PLAINTIFFS' EXHIBITS 011471

MS. AHERN: Objection.

THE WITNESS: I think so. I mean, I -- at the time of the product recall, my recollection is that there were messages sent to physicians and I certainly reviewed those at the time and again, that would have entered into my general database.

As I mentioned, there's a -- there's a particular document published by the FDA that refers specifically to the Actavis Digitek product recall.

In a number of the depositions, and perhaps in some of the declarations, there were references to examinations of some of the tablets that Mr. McCornack had apparently in his possession, they were subsequently evaluated by -- I don't know if the proper term would be toxicologist or pharmacologist.

So, I'm aware of that, but I believe that the information is all in the box that I have here.

BY MR. KILPATRICK:

Q What's your understanding about test results of the Digitek tablets that you just mentioned?

MS. AHERN: Objection.

THE WITNESS: It's my understanding that the tablets from Mr. McCornack's medication supply were tested and found to be within specification.

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PLAINTIFFS' EXHIBITS 011472

BY MR. KILPATRICK:

Q And could you be more specific about that? Do you know if it was from Mr. McCornack's pill bottle, from his -- from the complete batch or, more generically, of all the Digitek tablets produced by Actavis?

MS. AHERN: Objection.

THE WITNESS: If you like we can try to find the specific reference. Should we take the time to do that? It's probably in a document. Off the top of my head, I don't remember.

BY MR. KILPATRICK:

Q Well, why don't you take a look? Why don't you just see. Take a minute and see if you can find that. I am curious what test you're talking about.

A (Witness reviews documents.)

MR. TABER: Do you want to make him look through the whole box or do you want to try to save some time and -- I mean, we all know what it is; right?

MR. KILPATRICK: Well, I don't know. I mean, if you want to try to save some time and show him a document, I don't object to that.

MR. TABER: You mean in the McMullin depo?

MR. KILPATRICK: I don't know.

MS. AHERN: I think it's in one of the depositions, I just don't know which one it is.

PLAINTIFFS' EXHIBITS 011473

BY MR. KILPATRICK:

Q Well, Dr. Brown, let me ask you the question this way and see if it refreshes your memory. Are you talking about a test that tested roughly five pills, or are you talking about a test that tested hundreds of pills?

A I'm talking about the test of five pills.

Q Okay. All right. And that was -- Do you recall, was that the test done by NMS Laboratories?

A That's my recollection.

Q You had mentioned that you have been prescribing, is it fair to say, distributing Digitek tablets in your career?

MS. AHERN: Objection.

THE WITNESS: I don't think I ever distributed. I've prescribed the medication throughout my career, yes.

BY MR. KILPATRICK:

Q And have you ever prescribed any Actavis Digitek tablets to your patients?

MS. AHERN: Objection. If you know.

THE WITNESS: I have prescribed Digitek. I don't know who the manufacturer was, if there are more than one.

BY MR. KILPATRICK:

Q Do you know why you had received one of the

PLAINTIFFS' EXHIBITS 011474

recall notices that you mentioned?

A It's my understanding that it was -- and I -- I may have misspoken. I don't think I recall saying specifically I received a message.

But, I received an alert, and whether that was in the form of a journal article, a letter specifically to me or a general FDA letter, I don't recall. But, I believe that it was a -- a missive, if you will, that was sent out to all practicing physicians in the country. That was my impression.

Q Do you recall if any of your patients had been taking Digitek tablets produced by Actavis in the last six years?

A Well, as I mentioned, I have prescribed Digitek specifically, so I know I've had patients who were taking Digitek. Whether it was specifically manufactured by Actavis or not, I don't know.

Q What about assumptions that you made prior to rendering your opinion; did any attorney ask you to make any assumptions about Mr. McCornack or his health or any assumption at all about Mr. McCornack?

A No. Prior to my reviewing the materials, no.

Q And prior to writing your final opinion?

A Correct.

Q And did any attorney ask you to make any

PLAINTIFFS' EXHIBITS 011475

assumptions about the Digitek tablets that Mr. McCornack was taking?

A No.

Q Have you ever performed an autopsy?

A Yes.

Q Are you a pathologist?

A No.

Q And what were the circumstances; why were you asked to perform an autopsy?

A Well, at the time of it, I actually performed autopsy, I was a medical student doing my pathology rotation at Harvard Medical School.

Since then, I have certainly reviewed autopsy results and been present while autopsies were being performed in patients for whom I cared.

And similarly, throughout my 30-plus years of practice, I have used autopsy results to either render opinions about specific clinical cases in which I'm involved or, in certain circumstances, medical-legal cases.

Q And is it your practice to review autopsy reports prepared for your patients, assuming an autopsy report had been prepared for one of your patients, is it your practice to review those when those are prepared?

A Yes. It is my practice.

PLAINTIFFS' EXHIBITS 011476

Q And why do you do that?

A Well, for the purposes of determining the cause of death, mechanism of death, whether there may have been other, perhaps, clinically-unrecognized conditions that may have contributed to the death.

Q Meaning, clinically-unrecognized conditions that the pathologist may not have been aware of?

MS. AHERN: Objection.

THE WITNESS: No. I meant clinically-important conditions that we as the treating clinicians may not have been aware of.

When I use the term "subclinical," I mean these may be diseases or pathologic conditions that may have contributed to the death, but were not recognized or recognizable during the patient's life.

BY MR. KILPATRICK:

Q I understand that you disagree with the conclusions and the cause of death rendered by Dr. Mason in this case. Is that fair to say?

MS. AHERN: Objection.

THE WITNESS: I do agree with the opinion, or the cause of death listed by Dr. Mason on his original death certificate report.

I strongly disagree with the very unusual amended report that was prepared, as I understand it, a

PLAINTIFFS' EXHIBITS 011477

year and a half later, implicating Digoxin as a contributing factor of the death.

BY MR. KILPATRICK:

Q And have you ever disagreed with an autopsy report for any reason before?

A Well, I would ask you to perhaps better explain what you mean by "disagree." Have there been situations where I thought autopsy reports may not have -- or the pathologist preparing the autopsy report may not have fully understood the clinical circumstances surrounding the patient's death, yes.

Q Sure.

A Yes.

Q And can you recall specific instances when that's happened?

A Yes.

Q And what action did you take?

MS. AHERN: Objection.

THE WITNESS: What action did I take?

BY MR. KILPATRICK:

Q Yes.

A Well, there have been instances where we have asked that microscopic slides be reviewed by a cardiac specialist at other institutions, for example.

Q You just stated that you were, it sounded to me,

PLAINTIFFS' EXHIBITS 011478

critical of the timing of Dr. Mason's second autopsy report. Is that fair to say?

MS. AHERN: Objection.

THE WITNESS: Well, I think I said the timing of it was very unusual, and I was critical of the content, conclusion.

BY MR. KILPATRICK:

Q And does the timing of his report influence your opinion about its content?

A I think the way I would best say it is I would disagree with the content, regardless of the timing.

The timing is so unusual. My understanding is this second -- or this amended report was generated approximately a year and a half after the autopsy was performed and within days of his deposition. I think I can honestly say I've never heard of that happening before.

Q And does that cause you any concern about the contents of the report?

A Well, as I just said a moment ago, I would disagree with the conclusions that he reached, the content of the report, regardless of the timing.

Q So, the timing is not a factor for you in the accuracy of the report?

MS. AHERN: Objection.

PLAINTIFFS' EXHIBITS 011479

THE WITNESS: It's not something that I would disregard, but I've reached my conclusion -- I was able to reach a conclusion about agreement or disagreement, irrespective of the timing.

BY MR. KILPATRICK:

Q And did you talk to Dr. Mason at all before rendering your opinion?

A I believe that I read his deposition before rendering an opinion. I'd have to go back and look at the timing of my letter and his deposition, but my recollection is that I had read that.

I certainly had read his autopsy report, but I'd never spoken with him in person.

Q Are you familiar with the reasons surrounding the timing of his amended autopsy report?

MS. AHERN: Objection.

THE WITNESS: As I mentioned, I've never spoken with him. I've never seen any reasons given.

BY MR. KILPATRICK:

Q So, is that a no?

A I'm not aware. If -- if you like, we can go back to his original deposition and review that.

Q Well, I'm just asking your -- As you sit here today, you don't recall --

A Before -- before I answer that, I think it's

PLAINTIFFS' EXHIBITS 011480

probably worthwhile to go back and look at his deposition and see if he expressed any explanation of why he amended the report. As I mentioned, I have read his deposition, so it's probably worthwhile looking at it.

It doesn't have an index, at least in the version that I have, so that's going to make it tough. I'll probably have to go through this page by page, if that's what you'd like.

Q No. I'm just asking you for your present recollection.

A Off the top of my head at this moment, no.

Q That's good enough.

Dr. Brown, have you ever treated a patient suffering from Digoxin poisoning?

A Yes.

Q And when was the last time you did that?

A Well, the -- my recollection is it's within the last six months, perhaps more recent than that.

Q Do you recall the circumstances surrounding that, and how the person -- Well, let me first ask you, what do you mean by Digoxin poisoning?

MR. TABER: Just objection, the word "poisoning," I think, is an objectionable term. I think the correct medical term is different than that, so --

THE WITNESS: The most recent case was a patient who

PLAINTIFFS' EXHIBITS 011481

developed Digoxin toxicity manifested by what we call a general umbrella term, G.I. intolerance, or G.I. side effects, primarily nausea and anorexia, or lack of appetite.

He was an elderly man who was taking Diltiazem for the control of rapid atrial fibrillation and Digoxin was added to his regiment by his primary care physician. And approximately a week after starting the medication, he began to experience anorexia and nausea.

BY MR. KILPATRICK:

Q Any other symptoms that you have recall?

A In this particular patient, no.

Q And did somebody perform blood tests to determine the Digoxin levels?

A Yes.

Q Do you recall what those levels were?

A My -- my recollection is that the levels were between two-and-a-half and three, but I don't recall exactly.

Q In your opinion, is a Digoxin level between two-and-a-half and three a toxic level?

MS. AHERN: Objection.

THE WITNESS: Well, there -- there's no single cutoff point or Digoxin serum level that determines toxicity -- non-toxicity or toxicity. A patient's response to

PLAINTIFFS' EXHIBITS 011482

Digoxin is determined by a number of variables. The serum level is just one of those determinants.

As a number of experts have already testified in their depositions, Digoxin is widely distributed in cardiac and skeletal muscle tissue, amongst other tissues.

And the patient's response to Digoxin can also be influenced by concurrent medications, by serum electrolyte levels, by underlying structural diseases.

So, I have seen patients who have symptoms or signs of toxicity at much lower Digoxin levels and others who thrive at higher Digoxin levels. So, again, it has to be individualized for each individual patient.

In general, Digoxin levels above two nanograms per ML raise at least a possibility that the patient may have symptoms or signs of toxicity.

BY MR. KILPATRICK:

Q What is the highest level, Digoxin level, that you have seen that, as you've described, the patient thrives on?

A I've seen levels in the three's.

Q That the doctor will maintain a steady concentration of three nanograms per milliliter?

A Now, this --

MS. AHERN: Objection.

PLAINTIFFS' EXHIBITS 011483

THE WITNESS: We're talking about a while back. Remember, I've been doing this for a long time.
BY MR. KILPATRICK:
Q Okay.
A And some of the other medications that we now use routinely for the control of say, heart rate and atrial fibrillation, weren't available to us 25, 30 years ago. And at that time Digoxin was really our only medication we could use, or had available to us, to try to control heart rate and atrial fibrillation.
And under those circumstances, sometimes in order to gain out-of-control heart rate, Digoxin levels would have to be driven up into the high two's and low three's.
Q How long ago was that?
A We're talking in the late 1970s, early '80s. My recollection is that Diltiazem became available in the mid '80s.
Q And today, or even going back for the past five years, what would you consider to be the highest Digoxin level that a patient is thriving on?
MS. AHERN: Objection.
THE WITNESS: Well, "thrive" may be too strong a word. Remember that if we're using Digoxin under these circumstances, we're treating patients typically that

PLAINTIFFS' EXHIBITS 011484

have significant cardiovascular disease, typically atrial fibrillation that can't be controlled.

There may be some patients who, for one reason or another, cannot tolerate the other medicines that we use for heart rate control and atrial fibrillation, such as calcium channel blockers, like Diltiazem or beta-blockers. So, I have seen patients with levels of 2.5, chronically, under those circumstances. Yes.

BY MR. KILPATRICK:

Q Recently in the last five years?

A Yes.

Q Okay. And have you ever had a patient die of Digoxin poisoning or Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: Well, I was involved with care of a patient, the first patient to receive Digibind back in 19 -- I'll say '75 or '76. This is someone who had committed, or attempted to commit suicide by ingesting Digoxin tablets.

I -- I can think of at least one patient in the last 15 years who was successful in committing suicide by taking overdosage of Digoxin.

So, under those circumstances, I would agree with your use of the word "poisoning."

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PLAINTIFFS' EXHIBITS 011485

BY MR. KILPATRICK:

Q Well, what about toxicity, have you ever had a patient of yours die of Digoxin toxicity?

A Not in the recent five years that I'm aware of, who didn't have some other precipitating factor, such as a severely low potassium level that made the patient more sensitive to Digoxin, or may even have been an independent risk factor for cardiac arrhythmia; or patients with profound congestive heart failure, who, say, were also hypoxemic at the same time.

But in patients who were, say, simply being treated for lone atrial fibrillation, who are on Digoxin, no, I haven't seen any patients die of Digoxin toxicity, certainly in the past five years.

Q Well, how about a patient whose cause of death was ever determined to be at least in part caused by Digoxin toxicity, have you ever had one of those patients?

MS. AHERN: Objection.

THE WITNESS: Now, are you talking about in my personal experience?

BY MR. KILPATRICK:

Q Yes.

A In the last five years.

Q No. At all.

PLAINTIFFS' EXHIBITS 011486

A Where I've seen Digoxin toxicity listed as a contributing cause of death on the death certificate?

Q Correct.

A Is that what you mean? Not that I recollect.

Q Okay. Have you ever conducted any investigation on one of your patients for possible Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: Well, if you asked me, do I measure Digoxin levels in the patients -- in my patients who are receiving Digoxin, the answer is yes.

And the reason you do Digoxin levels is to try and ascertain if their level may be above the two-nanogram-per-ML level.

BY MR. KILPATRICK:

Q And that's the point that causes you some concern about high Digoxin level?

MS. AHERN: Objection.

THE WITNESS: I think I said earlier that there is no single level that determines Digoxin toxicity. Some patients who are particularly vulnerable, say, because of underlying structural heart disease, may become toxic at lower levels.

Other patients who, say, are being treated for lone atrial fibrillation in the absence of other structural problems, may be therapeutic at higher levels.

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But, the two-nanogram-per-ML is the level that's listed in most laboratory reports as the upper limit of therapeutic range.

BY MR. KILPATRICK:

Q But is that the level that if you see a patient with a blood level above 2.0, do you become concerned and is that a point of concern for you?

MS. AHERN: Objection.

THE WITNESS: I would -- I would look to see if the patient was manifesting any evidence of Digoxin toxicity. Yes.

BY MR. KILPATRICK:

Q Meaning what? Just at the time in your office?

A Depends on the circumstances of obtaining the blood sample. We do it both in the hospital, in the office, and in patients who are having outpatient laboratory testing.

Q Well, let pose a hypothetical situation for you and ask you a question about it. So, let me have you assume that a patient is taking his prescribed dose of .25 milligrams of Digoxin twice a day. And I want you to assume that patient suddenly died due to cardiac arrest.

And I want you to assume that a month after that patient died, you learned that the Digoxin medication that he was taking had been recalled because it contained

PLAINTIFFS' EXHIBITS 011488

twice the approved level of active ingredient of Digoxin.

Are you with me?

MS. AHERN: Objection. I'm sorry. Is that a question?

BY MR. KILPATRICK:

Q That's just a hypothetical situation I want you to be considering and then I've got a question.

A Okay.

Q Are you with me? Okay.

If you were asked to investigate the cause of death of that patient, would you tell me what things you would do to investigate his cause of death?

MR. TABER: Objection, false premises.

MS. AHERN: Objection.

THE WITNESS: Well, you're posting a hypothetical situation. I assume you're not speaking directly about Mr. McCornack? Although, certainly some of the assumptions that you've asked me to make about his dosage actually reflect the dose that he was taking; correct?

BY MR. KILPATRICK:

Q Correct.

A .25, twice a day.

But, as I said in my declaration, in my opinion there's no evidence that this patient was experiencing Digoxin toxicity.

PLAINTIFFS' EXHIBITS 011489

In the general situation, so what you're positing is you've got someone who's taking Digoxin twice a day, they die suddenly.

Q Cardiac arrest.

A Of cardiac arrest. And then what was the third hypothetical assumption?

Q And then you learned a month later that the drug he was taking had been recalled because it had twice the active ingredient of Digoxin.

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: Sir, are you -- are you saying that I should assume that the patient was taking Digoxin that was out of specification? Because I think we talked about earlier the fact that, at least of the five tablets of his that were tested, they were within specification, according to the NMS laboratory.

BY MR. KILPATRICK:

Q Right. But we're not talking about Mr. McCornack right now.

What I'm trying to understand is what would be your -- what do you believe is the medical procedure, what are the steps that you believe is appropriate, as a medical doctor, to take under those circumstances.

MR. TABER: Objection.

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MS. AHERN: Objection.
BY MR. KILPATRICK:
Q In order to determine that patient's cause of death.
A So, are you asking me to pretend that I was the coroner, you mean, or to imagine that I was doing that?
Q You can imagine you were the coroner or, as I understood it, you have conducted those investigations for your patients in the past, where you'll get pathologist's report and conduct a little more follow-up research.
MS. AHERN: Objection.
THE WITNESS: Well, I -- I would do what I've done in this case, and that was obtain past medical records of the treating physicians, particularly the cardiologist, a referral cardiologist that the patient may have seen, primary care physician.
I would review the laboratory studies that were done in the patient during life. And if an autopsy was performed, I would review the gross and microscopic cardiac findings.
BY MR. KILPATRICK:
Q Would it be reasonable to order a blood test of that patient?
MS. AHERN: Objection.

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THE WITNESS: Well, if a -- you mean, if there was a blood sample that had been obtained during life that could still be tested, yes, I think that would be worthwhile.

It's my understanding that -- that there is significant post-mortem redistribution of Digoxin from tissues into blood after death, particularly if there's been a significant delay between death and obtaining blood samples, so that I'm not aware of any reliable clinical information that suggests that, particularly long after, i.e., 72, 76 hours, as occurred in this particular case, that Digoxin levels obtained at a delayed post-mortem can be used to accurately calculate or reflect what was going on in life.

BY MR. KILPATRICK:

Q Yeah. I'm not asking you about this case yet, and the facts of this case. I'm trying to just understand what the basic procedure would be, that you believe is reasonable to follow, if you were investigating the cause of death of one of your patients who died of a heart attack and you learned that he may have been taking a double dose of Digoxin.

MR. TABER: Objection.

MS. AHERN: Objection.

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BY MR. KILPATRICK:

Q So, would analyzing a post-mortem blood sample be something that's a reasonable part of that investigation?

A Well, I want to be careful about the terms that we're using here. You just mentioned a person that died of a heart attack. That has a specific meaning to me.

Q Okay.

A As a cardiologist, and particularly as an interventional cardiologist. It may not be exactly what you meant to express.

Q Well, go ahead and explain that because, no, it may not be.

A Well, in -- for me, "heart attack" is a layman's term that we would use for what we term "myocardial infarction."

Q Okay. More comfortable with "sudden cardiac death"?

A Well, "sudden cardiac death" is a general term. Yes.

Q So, if you had a patient that died of sudden cardiac death, would you want to analyze his post-mortem blood sample?

MS. AHERN: Objection.

THE WITNESS: Again, based on -- on what I understand

PLAINTIFFS' EXHIBITS 011493

about post-mortem redistribution of Digoxin, no, I would not rely on a post-mortem blood sample Digoxin level to try to determine if Digoxin contributed to the patient's death.

BY MR. KILPATRICK:

Q Would you review any witness statements who were present when the person suffered this sudden cardiac death?

A If witness statements are available, yes.

Q And I think you said you'd consider the autopsy findings. Correct?

A Yes.

Q And would you review or consider articles or textbooks about Digoxin redistribution?

A Well, again, I -- the opinion I expressed to you or my understanding that I expressed to you about redistribution of Digoxin, again, is based on my training, education, experience, and also the review I made of some of the materials that were referenced during the course of my reading of depositions and declarations, et cetera.

I don't have any specific journals that I would refer to, if that's what your question was.

Q Well, do you think it's reasonable to review articles about Digoxin redistribution, if you were

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investigating a sudden cardiac death of a person who was taking a medication that had been recalled because it might contain twice the level of active ingredient of Digoxin?

MS. AHERN: Objection.

THE WITNESS: Well, again, as I said, it's my general -- it's part of my general knowledge base about this redistribution. So, if you're asking me, would I go back and review articles before deciding whether or not to rely upon a post-mortem Digoxin level, no, I wouldn't have to go back and review more articles.

BY MR. KILPATRICK:

Q You wouldn't have to?

A I would not.

Q Because you're familiar with what those articles have to say?

A No.

MS. AHERN: Objection.

THE WITNESS: I'm sorry. Because I have a general understanding that post-mortem Digoxin levels, because of the redistribution, particularly when there's been a significant delay from the patient's death until obtaining the blood samples, makes the measurement of post-mortem Digoxin levels problematic and not reflective of what was going on in life.

PLAINTIFFS' EXHIBITS 011495

BY MR. KILPATRICK:

Q And describe for me, if you can, the process about redistribution of Digoxin and the effect it has on blood levels after death.

MS. AHERN: Objection.

THE WITNESS: Again, I would defer to a toxicologist about the specifics of redistribution. But, my general understanding is that certainly in life, Digoxin is concentrated, if you will, in cardiac and skeletal muscles; and that after death, it basically diffuses out across the concentration gradient into the bloodstream.

So, that even in the absence of circulation but after tissue death, Digoxin levels obtained from blood or serum samples are significantly higher than they would have been during life.

BY MR. KILPATRICK:

Q And significantly higher at what point in time?

MS. AHERN: Objection.

THE WITNESS: Again, if you like, we can go back and look at the specific article. But, it's my recollection that one study that looked at this issue, looked at samples obtained within 10 hours or so. Typically, autopsies are done within the first 24 hours after death.

BY MR. KILPATRICK:

Q And I understand that you don't think that a

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blood sample taken 78 hours after death is a reliable -- that it's going to give you a reliable data point, because of the effect of redistribution. Is that your concern in this case?

A Correct. And there -- it's not just redistribution, but it also has to do with where the blood sample was obtained, what part of the body. It has to do with how the body was stored, from the time of death until the time of autopsy, and the sampling.

There are a myriad number of variables that make it very difficult to use a single isolated sampling, particularly when it's obtained so late after death.

Q Well, what does the 3.6 blood result in this case mean to you, if anything?

A To be quite frank, it doesn't mean anything to me. There's so many variables involved, that I don't think it can be used one way or the other to estimate what the patient's Digoxin blood level was in life.

Q Well, I'm not asking you yet to estimate his blood levels in life. I'm just asking you, does it have any meaning at all?

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: Well, it means that at some point up to his death he was taking Digoxin.

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BY MR. KILPATRICK:

Q Okay. And does it mean that his -- do you believe that his anti-mortem level would have been higher or lower than 3.6?

A I think very good likelihood it would have been lower than 3.6.

Q And is that because Digoxin leaches into the blood to a point of equilibrium?

MS. AHERN: Objection.

THE WITNESS: Well, it don't know that it actually reaches equilibrium. I'm not sure that a study has ever been done where you -- where you take serial samples of blood from a cadaver to determine what happens to Digoxin levels over an extended period of time.

So, I hesitate to use the word "equilibrium." That implies to me a steady state.

BY MR. KILPATRICK:

Q Okay. Is there any point where a post-mortem blood sample could be taken that you feel would be a reliable indicator to allow you to calculate the anti mortem blood level?

MS. AHERN: Objection.

BY MR. KILPATRICK:

Q And at a point in time after death?

A At least according to my understanding, no.

PLAINTIFFS' EXHIBITS 011498

Q So, five minutes after death, you wouldn't rely on it?

A Five minutes, possibly. Hours, I don't know.

Q So, two hours, you just don't know?

A I don't know.

Q Well, what does that mean? Does that mean that you would not rely on a blood sample taken two hours after death to help estimate the anti-mortem blood level?

MS. AHERN: Objection.

THE WITNESS: Well, I've already said that post-mortem Digoxin levels are affected by this redistribution, by how the body's stored, by where the blood is harvested from.

I don't know if -- I don't know if there's any point in time where a post-mortem blood sample for Digoxin would give you a reliable measurement that would allow you to predict anti-mortem Digoxin levels in life.

BY MR. KILPATRICK:

Q Are you aware of any scientific papers or textbooks that assert that there is a way to predict a range of anti-mortem blood levels, based on most mortem blood level samples?

A Let's see. In terms of reliable reports that are broadly accepted by the forensic community, I'm not aware of any. There may be individual reports.

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It's my recollection that Dr. Gibson intimated that he had reviewed a report, but I don't know that there's any report that is broadly and generally accepted.

Q One of the documents I believe you cited in your report was an excerpt from this book. And I don't know if you recognize it, but it's the textbook prepared by Dr. Baselt, B-A-S-E-L-T.

A Yes.

Q Are you familiar with that book?

A Familiar with the book in name only. I've reviewed this chapter.

Q Is that a book that's used, as far as you know, by pathologists, generally?

A I don't know.

Q What about cardiologists?

A By cardiologists, infrequently.

Q You referenced that article or that portion of the book in your report. I'm just wondering if you can tell me why, what was the purpose of citing to that textbook?

A First, let me refer to my report.

So, in my list of materials that I have reviewed, I listed the Baselt Disposition of Toxic and Chemicals in Man. But, in reading my declaration, I

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don't see any specific reference to Baselt textbook, unless I'm overlooking it. I'm rereading it right now.

Are you referring to the sentence where I write, quote: Clinical serum Digoxin levels are drawn at least 68 hours - that was 6 to 8, sorry - after dosing to allow for the medication to reach steady state blood levels; is that what you're referring --

Q No. Let me see your report just a moment.

So, here in your second page of your report, down under Medical References, you cite the Baselt textbook.

A Right. That's what I just acknowledged.

Q And that's what I'm asking you is what is the purpose of including that in your report?

A Well, this report was -- in my report, I listed all the materials that I had reviewed in the matter. So, I listed that in an effort to be complete and I list all the medication -- all of the sources that I had reviewed.

Q Okay.

A Yeah.

Q Are you telling me, then, that you didn't consider the findings or conclusions in that textbook to help you render your opinion?

MS. AHERN: Objection.

THE WITNESS: Well, as I said earlier, my -- my

PLAINTIFFS' EXHIBITS 011501

opinion was reached relying on my education, my training, my experience, my caring for patients who are receiving Digoxin over the 30 or so years that I've been in practice.

If there's a specific passage in this monograph that you'd like to discuss, you can point it out to me and I can tell you what I -- how I respond to it.

BY MR. KILPATRICK:

Q Well, I guess that's really my question to you, is there any specific part of that monograph that you used to support your opinion?

A I need to take a minute here to read it, then.

Well, what I'll do is remark on this as I read through it.

Q Sure. That would be great.

A Okay. So, when the author is first talking about blood concentrations, I'll just mention parenthetically that he refers to studies done by Drs. Smith and Haber. Dr. Haber was our Chief of Cardiology at the Massachusetts General Hospital with Harvard Medical School, where I did my training.

So, he was actually my direct supervisor during my cardiac fellowship, and he and I coauthored papers on cardiovascular research.

Dr. Thomas Smith was the Chief of Cardiology at

PLAINTIFFS' EXHIBITS 011502

the Peter Bent Brigham Hospital, actually interviewed me for an internship. So, I'm quite familiar with their work. And it was Dr. Haber who had introduced the Digibind antibodies I mentioned earlier that were first used to treat Digoxin poisoning in a patient who had taken Digoxin in a suicide attempt.

I'm aware of the information that after intravenous Digoxin administration, serum levels as high as 13 micrograms per ML have been measured for -- at ten minutes after injection. Remember, we're talking -- we've been talking about levels of two nanograms per ML. This is significantly higher than that.

So, just during the course of intravenous administration of the medications, patients transiently have very, very high Digoxin levels that then gradually return back towards what we would call a "trough level" before the next dose.

Q As far as you know, had Mr. McCornack received any intravenous Digoxin shots?

A Well, the same general principle applies when a patient takes oral medications. It may not reach quite as high a level, but it does peak within the first several hours after administration and then gradually returns back towards baseline.

So, the trough levels that we measure, and we've

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talked about the upper limit of therapeutic being 1.6 to 2.0 nanograms per ML, the patient is actually subjected to much higher levels in the few hours after they take an oral dose. So, we're measuring trough levels for several hours after a patient takes an oral dose. Serum levels are much higher, as the -- as the medication redistributes.

Q Do you have an estimate of the range of how high those serum levels can get two hours after taking a Digoxin tablet, .25-milligram Digoxin tablet?

A According to this paper, in patients who received an average oral daily dose of 0.31 milligrams averaged serum levels of 1.4 micrograms per ML -- per liter, excuse me, with the range of 0.3 to 3.0.

At least, in this particular monograph there's not additional details. We'd have to refer back to the 1970 publication by Drs. Smith and Haber to answer your question.

But, at least some patients, even at trough, had levels -- receiving a dose significantly less than Mr. McCornack on a regular basis, had levels of 3.0 micrograms per liter.

Q And are blood serum levels at that level consistent with your experience of patients taking Digoxin tablets, going above the therapeutic level, from

PLAINTIFFS' EXHIBITS 011504

a 1.6 up through as high as 3, several hours after taking a .25-milligram tablet?

MS. AHERN: Objection.

THE WITNESS: Yes. As I mentioned in my declaration, the recommendations are to delay measurement of serum Digoxin levels for 6 to 8 hours, if possible, after an oral dose, just because of that phenomenon.

And I have often seen Digoxin levels in the 3-range easily, when the Digoxin level is drawn within the first few hours after oral or intravenous administration. Absolutely.

So, I haven't quite finished your earlier question. Did you want me to move on or --

BY MR. KILPATRICK:

Q No. I don't think you're answering my earlier question.

A Oh, I haven't answered it completely, because you asked me about the monograph. Again, I'm happily to finish reviewing the monograph.

Q I believe my question was, I'm trying to understand if you relied on that monograph in rendering your opinion.

A Well, in order to answer that, because I did review this before rendering my opinion, I need to read through it to see specifically what they listed here in

PLAINTIFFS' EXHIBITS 011505

their -- in the monograph, before I can answer your question accurately.

Q Okay. Why don't you take a couple minutes to review that?

A Okay.

(Witness reviews document.)

So, again, I haven't finished reviewing the monograph, but moving on to the paragraph about metabolism and excretion, I think I spoke about the fact that Digoxin was concentrated in cardiac and skeletal muscle, relative to serum concentration.

Here in the monograph they talk about that myocardial-to-serum Digoxin concentration ratios averaged 28 in adults; meaning, it's 28 times a higher level of Digoxin in myocardium, compared to skeletal -- pardon me, compared to serum.

Q Do you agree or disagree with that premise?

A I would -- I would agree with that premise.

So, moving on to the paragraph about toxicity. I think we spoke earlier about Digoxin toxicity being manifested by nausea, vomiting, diarrhea, blurred vision and cardiac disturbances, such as tachycardia, premature contractions, atrial fibrillation and atrial ventricular block.

The author refers to the treatment of the case

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of ingestion of 22.5 milligrams of Digoxin that was successfully reversed by the intravenous administration of Digoxin-specific antibodies. That's the case that I mentioned that I was personally involved in.

So, at the bottom of page 341, the author begins to talk about post-mortem blood concentrations and it says, quote:

It has been determined that serum Digoxin levels nearly always increase after death due to leaching from muscle, with an average post-mortem/anti-mortem ratio ranging from 1.42 for a femoral vein blood specimen, to 1.6 for heart blood specimens.

Q And do you disagree with that premise?

A I -- I accept that premise. Fletcher, et al., suggested that post-mortem blood samples for Digoxin assay be taken from the peripheral circulation within a few hours after death; that they may be -- pardon me. That they -- I think there's a typo here.

That they may be completely hemolyzed by completely freezing and thawing several times and centrifuged before analysis. The analytical value may then be multiplied by 1.3 to estimate the serum Digoxin concentration at the moment of death.

Q That's another one, do you agree or disagree with that premise?

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A I have no reason to disagree with it. I would emphasize that they're talking about samples obtained within the first few hours after death.

Okay. So, now that I've had an opportunity to review this, could you ask the question one more time?

Q Sure. Did you rely on that monograph in rendering your opinion about the cause of death of Mr. McCornack?

A About the cause of death. Certainly, I -- I relied upon this in a general way in reaching my general conclusions.

My -- my opinion about the cause of death was based primarily upon reviewing what I understood to be the circumstances of his death and the results of the autopsy.

I used the information in this monograph to help me better understand the reliability or lack of reliability of post-mortem Digoxin levels, particularly when obtained 72 or more hours after death --

Q Did you -- I'm sorry.

A -- in trying to predict the anti-mortem blood level.

Q Is there anything in that monograph that states blood samples taken 72 hours after death is unreliable?

MS. AHERN: Objection.

PLAINTIFFS' EXHIBITS 011508

THE WITNESS: Again, we've reviewed the fact that there's a recommendation that samples be taken within a few hours after death.

BY MR. KILPATRICK:

Q And is it a recommendation or an observation or simply a report?

A Well, it says: Fletcher, et al., suggested that post-mortem blood samples for Digoxin assay be taken. So, I would take that to be a recommendation or a suggestion, rather than an observation.

Q Do you know the reason Fletcher suggests that?

A Not specifically.

Q Have you seen any literature that indicates blood samples taken 72 hours after death render them unreliable in applying those basic ratios that are in that Baselt textbook?

MS. AHERN: Objection.

THE WITNESS: Well, I think the way I would phrase my answer is that since we have a suggestion that Digoxin levels be obtained within several hours after death; and since we know that there's a strong concentration gradient between cardiac skeletal muscle and serum that diminishes after death with redistribution of Digoxin into -- from the tissues into the serum, from my view, anyone who suggested using samples obtained 72 hours

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after death, they're the ones that face the burden of providing evidence that that's reliable.

That's the way I would phrase my answer. Because, everything I understand about the chemistry of the situation and diffusion along concentration gradients, coupled with the suggestion that was listed in this monograph, would lead me to form the opinion that samples obtained solely after death would be unreliable.

BY MR. KILPATRICK:

Q Can you tell me either yes, no, or I don't know, if you have ever seen any studies that indicate that blood samples taken 72 hours after death is unreliable.

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: I've never seen any studies that report on the reliability of samples obtained so late, one way or the other.

BY MR. KILPATRICK:

Q Okay. And could you explain, this may be unrelated to what we're talking about here, but this second highlighted section where they're talking about blood samples taken 24 hours after death. Could you explain that, tell me if you understand what they're saying?

A Well, let's see. The statement that you're

PLAINTIFFS' EXHIBITS 011510

referring to reads: "Vorpahl", V-O-R-P-A-H-L, "and Coe", C-O-E, "1978, in a series of 27 cases, found that vitreous humor Digoxin concentrations averaged 60 percent" -- and again, I think there's a typo here.

It just says: "60 percent those of anti-mortem serum and 37 percent those of post-mortem heart blood, and that they do not change significantly in the first 24 hours after death."

So, the vitreous humor is the fluid that's in the eye.

Q Right.

A So, let's see. So, it looks as though during life, Digoxin levels in the vitreous humor of the eye are less than those of the serum. Let's see. And an even lower percentage of those of post-mortem heart blood.

So, presumably what that refers to is that after death, the heart blood concentration of Digoxin rises so the -- the ratio of vitreous humor to heart blood drops. And that they do not change significantly in the first 24 hours after death.

I don't know what that means. Because he's got two -- he's talking about anti-mortem percentages and then the first 24 hours after death. So I -- no, I don't, other than the fact that knowing "vitreous humor" refers to the eye, I don't understand that sentence.

PLAINTIFFS' EXHIBITS 011511

Q Okay. Let me have you turn to your report for a moment. And I think we have marked it. Do you have a copy?

A Yes.

MR. TABER: Off the record.

(Discussion was held off the record.)

BY MR. KILPATRICK:

Q You had mentioned earlier that you had spoken to some attorneys about your report prior to finalizing it. Is that accurate?

A Well, my recollection is that we -- that I prepared my report, we discussed it over the telephone, and I printed and signed it. Yes.

Q Did anyone make any suggestions that you change any part of your report?

MS. AHERN: Objection. That's the drafts and communications of the attorneys.

MR. TABER: Join in the objection.

THE WITNESS: I don't recall any specific recommendations. We certainly had a general discussion.

BY MR. KILPATRICK:

Q Can you tell me what that general discussion was about?

MS. AHERN: Objection, we're not answering questions about communications with attorneys outside of the Rule.

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MR. TABER: Same objection.
BY MR. KILPATRICK:
Q Well, did any of those discussions have to do with any of facts that were in your report or any of the assumptions that you made in the report?
A No.
Q Based on the information that's been provided to you, do you agree that Mr. McCornack appeared to be taking his medication, his Digitek regularly and as prescribed?
A Yes. Although there were references in his treating cardiologist's notes that on occasion he would take more than the prescribed dose when he thought he was experiencing more severe palpitations or irregular heart rhythms. I think specific reference was that he would double his dose.
Q And do you recall when that was? Just as you sit here.
A Well --
Q I don't need you to look it up. Do you have any independent recollection as you sit here?
A Well, you asked me. I'll tell you exactly what it was. It was -- the particular notation of it by Dr. Von Dollen was in his February 16th, 2000, progress note and I think he made reference to it during his

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deposition, as well.

Q Any other times that you recall?

A Not specifically. No.

Q Do you recall if Mr. McCornack had organized his Digoxin tablets in a pill organizer while he was on his camping trip?

A I don't recall the specifics of that.

Q Do you recall anything about that? Do you recall the fact that he was using a pill organizer?

A Not specifically, no.

Q I'm just confused. Does "Not specifically" add something?

A No.

Q Do you have some general recollection --

A No, I don't.

Q Now, on page three of your report, in your Discussion section, and this is going to be the third paragraph in the middle, you state that:

"The patient was apparently in his usual state of health on the date of his death and did not exhibit any complaints characteristic of patients with Digoxin toxicity."

Do you see that?

A Yes.

Q Now, you didn't speak with anyone who was with

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Mr. McCornack that day; correct?

A Correct.

Q And you didn't review any videotapes of Mr. McCornack that day?

A Videotapes? No.

Q So, when you say "exhibit," you just mean that no one has reported to you any signs that you would consider clinical symptoms of Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: Well, again, I -- I based my opinion upon the review of the medical records and the deposition testimony, so it wasn't an issue of reporting to me. It was based upon my review of the records.

BY MR. KILPATRICK:

Q But, I just want to make sure I understand this. You're using the term, "exhibit." You didn't witness him, you didn't talk to anybody who was watching him that day; all of your information comes from these records?

A Correct.

MS. AHERN: Objection.

BY MR. KILPATRICK:

Q All of your information about Mr. McCornack's behavior or physical symptoms comes from these records that you were given?

MS. AHERN: Objection.

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THE WITNESS: Yes.
BY MR. KILPATRICK:
Q Would you list for me the criteria that you would consider making a diagnosis of Digoxin toxicity?
MR. TABER: Objection.
MS. AHERN: Objection.
THE WITNESS: Well, there are patients who exhibit, again, what we've lumped together as gastrointestinal complaints, nausea, anorexia. There are some patients who complain of visual effects, sometimes characterized as yellow vision or yellow halos.

There are some particular cardiac arrhythmias that are characteristic of Digoxin toxicity. Advanced atrial ventricular block, atrial fibrillation can be a manifestation, premature ventricular contractions can sometimes be a manifestation of Digoxin toxicity.
BY MR. KILPATRICK:
Q Is that it?
A Well, yes.
Q Dizziness, is that a clinical symptom of Digoxin toxicity?
MR. TABER: Objection.
THE WITNESS: Well, remember that dizziness is a -- it's a very common complaint with a myriad of causes.

I don't remember a specific reference to the

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fact that Mr. McCornack was complaining of dizziness or experiencing dizziness. I would characterize dizziness as a very nonspecific finding.

BY MR. KILPATRICK:

Q But is it a -- is it consistent -- Well, is it a clinical symptom that you would consider in rendering a diagnosis of Digoxin toxicity?

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: Again, it's such a nonspecific complaint and I'm not aware that Mr. McCornack exhibited or complained of dizziness. So, dizziness, per se, wouldn't lead me to make the diagnosis of Digoxin toxicity, if that's what you mean.

BY MR. KILPATRICK:

Q No. I just mean is it one factor that you would consider as evidence of Digoxin toxicity?

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: Dizziness can occur in patients that have Digoxin toxicity, but it is in no way specific to toxicity.

BY MR. KILPATRICK:

Q What about fatigue?

MR. TABER: What about it?

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BY MR. KILPATRICK:

Q Is fatigue a clinical symptom that you would consider relevant in making a determination that someone suffered from Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: Well, again, fatigue is an incredibly general complaint and particularly in a man who, as I understand it, was overweight and also had chronic atrial fibrillation. Fatigue would be a very commonly described symptom and, in my view, would not be characteristic of Digoxin toxicity, or diagnostic.

BY MR. KILPATRICK:

Q Are you aware that Mr. McCornack was reported to have complained of feeling bloated the day he died?

A I believe so. Yes.

Q In your experience, or in your opinion, is that the type of gastro -- is that a type of gastrointestinal discomfort that's relevant to determining if someone is suffering from Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: Well, again, bloating is a very nonspecific symptom. I would wager to say typically when I attend a barbecue or an outdoor picnic, and particularly if I have a beer or two, I'm going to experience bloating. So, I wouldn't view that as being

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characteristic of Digoxin toxicity.
BY MR. KILPATRICK:
Q Well, do you consider it to be a type of gastrointestinal disorder or complaint?
MS. AHERN: Objection.
THE WITNESS: Well, I suppose it's relevant to the gastrointestinal system, but I don't think it has -- To me, it doesn't have sufficient specificity to be a useful finding, certainly in this circumstance.
BY MR. KILPATRICK:
Q And what was the gastrointestinal complaints that would be relevant for you in making a diagnosis of Digoxin toxicity?
A Well, again, none of these complaints that we've been talking about, including those that I mentioned earlier, nausea, or anorexia, are specific to Digoxin toxicity.
There are a multitude -- multiple explanations for nausea, anorexia, bloating, as we already talked about, fatigue. So, none of these would be a specific finding diagnostic of Digoxin toxicity.
Q Well, when you say that you haven't been given any evidence that Mr. McCornack was exhibiting clinical signs of Digoxin toxicity, is that because you would have wanted a medical doctor to examine him and inquire about

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the nature of his physical condition?

A Well, typically, at least in my experience, when patients have clinical Digoxin toxicity expressing themselves as gastrointestinal complaints, it's enough for them to interrupt their daily activities.

I wouldn't expect someone who was having Digoxin toxicity to continue on a camping trip, to -- from what I understand, to eat a normal meal, perhaps to have an alcoholic drink or two. That kind of behavior, I would think would be uncharacteristic of a patient who was experiencing Digoxin toxicity.

Q And do you recall the time that Mr. McCornack was reported to be -- of complaining of bloating?

A Not specifically.

Q You don't know if it was before or after his meal?

A Not specifically.

Q Can Digoxin toxicity cause pulmonary edema?

A I don't think there's a direct connection. Certainly, in my differential diagnosis of the causes of pulmonary edema, I would not list Digoxin toxicity. No.

Q What is pulmonary edema, just in layman's terms?

A It's an increase in the fluid content within the lung tissue.

Q Do you have any evidence one way or the other

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about Mr. McCornack's clinical symptoms in the week leading up to his death, other than the reports you've seen?

A Other than the reports that I've seen and the deposition testimony that I've read, no.

Q In your opinion, how many of the symptoms that you described, gastrointestinal illness and the vision problem and the cardiac arrhythmia problem, how many of those need to be present in a patient before you begin to suspect that they could be suffering from Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: Well, I -- I wouldn't approach it that way. I would say -- and again, I -- we've already discussed the fact that other than the fact that there were potentially some general remarks about him feeling bloated, I don't remember that there were any mention that he complained about lack of appetite, nausea, the other things that you mentioned.

So, I don't think I understand your question.

BY MR. KILPATRICK:

Q Let me ask it another way: Is it possible for someone to be suffering from Digoxin toxicity and not complain of any of the clinical science that you had talked about?

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MR. TABER: Objection.
MS. AHERN: Objection.
THE WITNESS: Yes, it is possible.
BY MR. KILPATRICK:
Q Is it possible for someone to be suffering a cardiac arrhythmia, such as bradycardia, and not even be aware of it?
MS. AHERN: Objection.
THE WITNESS: Well, bradycardia is a general term for people who have heart rates less than 55. So, can people be bradycardic and not have symptoms? Yes. My resting heart rate's in the 40s.
So, could you restate -- so, people can certainly be bradycardic without having symptoms. Could you perhaps be more specific in your question?
BY MR. KILPATRICK:
Q That they wouldn't -- they wouldn't even know they were bradycardic; they wouldn't know, their heart wouldn't feel odd to them, it's nothing that they would think would be unusual?
MS. AHERN: Objection.
THE WITNESS: Well, when you're talking about patients -- I think you're talking about general patients. If you want to speak specifically about Mr. McCornack --

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BY MR. KILPATRICK:

Q Sure.

A -- in whom we found out at autopsy had actual -- he had significant structural heart disease, manifested by cardiomegaly, left ventricular hypertrophy, as well as patchy areas of myocardial fibrosis, someone like that I would expect to experience symptoms, if they were having significant bradycardia.

Q That they would perceive those symptoms; is that what you mean?

A That they would experience symptoms. Symptoms, if you're having symptoms, that means that you perceive them. Yes.

Q Well, let me try to just clarify. So --

A I would expect that if he was having bradycardia, he would have been having symptoms relative to his bradycardia.

Q What would those symptoms be?

A Lightheadedness, fainting spells, profound weakness.

Q Would he experience any of those while sleeping?

A I --

MS. AHERN: Objection.

THE WITNESS: I don't know. Do we have any evidence that he experienced bradycardia while sleeping?

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BY MR. KILPATRICK:

Q I'm asking if he could have had bradycardia while he was asleep and not been aware of it.

MS. AHERN: Objection.

THE WITNESS: I -- in all of the records that I reviewed, I -- I didn't see any evidence that the patient had bradycardia.

One of the reasons that he was taking such high doses of Digoxin and Diltiazem, both of which tend to slow the heart rate, is because he had just the opposite problem. His heart rate tended to be very fast and he required high doses of those medications to try and keep his heart rate under control. So, just the reverse.

If anything -- Well, the answer is no, I didn't see any evidence that he had bradycardia.

BY MR. KILPATRICK:

Q But, that wasn't my question. My question was is it possible that he could have slept through a bradycardia event?

A Given what I just said, I think it's possible but very unlikely.

Q And why is that?

A Because it's unlikely that he would have experienced bradycardia, given what we know about his heart rate and the requirement for high doses of these

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medications.

Q Well, let me have you assume, then, that he did experience bradycardia. If that happened, is that the type of thing that would have startled him awake or would he have likely slept through it?

MS. AHERN: Objection.

THE WITNESS: Well, I think we're -- we're probably -- we're following a pathway that, to my mind, doesn't apply in this case and isn't logical.

If you're talking about patients who are receiving Digoxin, who have become bradycardic, typically their heart rate doesn't slow to the point where they develop cardiac arrest.

The heart has compensatory mechanisms, what we call, so-called "escape pacemakers" that come into play, as Digoxin levels increases.

BY MR. KILPATRICK:

Q Well, it may not be typical, but it can happen. True?

A When you say --

MS. AHERN: Objection.

THE WITNESS: When you say, "it can happen," I would say possibly but very unlikely.

BY MR. KILPATRICK:

Q Just because it's infrequent?

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A Very infrequent.
Q Okay.
A And again, when we try to -- when I'm asked to review a case and render an expert opinion, I'm trying to give you my opinion based on what is probable.
Q Well, what about, does it change the probabilities if that person is suffering from Digoxin toxicity?
MS. AHERN: Objection.
MR. TABER: Objection.
THE WITNESS: Well, no, because the example I was just expressing to you was in a patient who was experiencing higher Digoxin levels, typically they may have atrial ventricular block, particularly if they're in atrial fibrillation. But, there are compensatory mechanisms and escape rhythms that appear that prevent the heart rate from going to zero, resulting in a cardiac arrest.
BY MR. KILPATRICK:
Q But, that's not true in every case; it can certainly still happen that high levels of Digoxin can slow your heart or stop your heart.
MR. HABER: Objection.
MS. AHERN: Objection.
THE WITNESS: It's very, very unlikely.

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BY MR. KILPATRICK:

Q Does Digoxin affect the electric impulses that are sent from the atria down to the ventricle; is that what it does?

MS. AHERN: Objection.

THE WITNESS: Well, one of the reasons that I expressed the opinion I just did, that it was very unlikely, is because the majority of Digoxin's effect on the cardiac conduction system is indirect, unlike Diltiazem.

Remember that Mr. McCormick -- McCornack, excuse me, was taking high doses of Diltiazem. Diltiazem works directly on the electrical conducting system, particularly the AD node, to depress AD nodal conduction and to slow the heart rate.

BY MR. KILPATRICK:

Q Okay.

A The Digoxin works indirectly by potentiating what we call vagotonic tone. The vagus nerve travels from the brain to the heart and elsewhere in the body. As we sit here at the table, our hearts are generally under vagal tone, keeping our heart rate slowed a little bit. If we were to sever the vagal nerve, our heart rate would actually increase a bit.

So, under those circumstances, when you're under

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vagal tone, Digoxin augments vagal tone, slowing the heart rate.

So, Digoxin's effect is primarily indirect and that's one of the reasons why I said that your hypothetical situation where a patient would sleep through bradycardia to the point of having cardiac arrest from Digoxin would be very unlikely.

Q Okay. I'll have you look at your report again and in the following paragraph, you have a sentence there that states:

"The post-mortem Diltiazem level was over three times the therapeutic level and may have contributed to risk of arrhythmia and sudden cardiac death."

Do you see that?

A Yes.

Q Are you familiar with the redistributing effect of Diltiazem?

MS. AHERN: Objection.

THE WITNESS: Not specifically, no.

BY MR. KILPATRICK:

Q In the NMS blood lab results for Mr. McCornack, do you recall a footnote in there, they had mentioned that the redistribution ratio was roughly 2.6 for Diltiazem?

A Why don't we go to that specific reference.

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Q Sure.
A If you can tell me where that is.
Q It is -- if you have the -- if I can find it for you. If you have the amended autopsy report. I'll show you my copy.
MS. AHERN: I think it's the same one you have.
MR. KILPATRICK: Is that the blood tests, and on the second page -- Yeah.
BY MR. KILPATRICK:
Q Second page, item two, talking about Diltiazem. Is that what you're looking at?
A Yes.
Q And in there, right above the paragraph three, the last sentence says:
"In addition, Diltiazem is indicated to undergo a post-mortem redistribution with average heart blood/femoral blood ratio of 2.6."
Do you agree or disagree with that statement?
MS. AHERN: Objection.
THE WITNESS: Well, I have to say I'm confused. So, what you're telling me is that both Diltiazem and Digoxin undergo post-mortem redistribution. We should pay attention to that redistribution of Diltiazem, but ignore the redistribution that occurs with Digoxin, particularly in a patient whose autopsy was performed 72 hours after

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death? Is that what -- so --
BY MR. KILPATRICK:
Q No, I'm not saying that. That's -- Are you saying that?
A Well, I don't disagree with this sentence.
Q Okay. And so, in this case, do you have any opinion about whether his post-mortem Diltiazem levels were consistent with his anti-mortem therapeutic range?
A Well, we don't know what his anti-mortem blood levels were. Diltiazem is not a medication that we typically measure blood levels for.
Q Well, you talked about therapeutic -- You said: "The post-mortem Diltiazem level of 630 nanograms is over three times the therapeutic level."
What did you mean by that?
A Well, that's in research studies. I'm not aware that Mr. McCornack had any anti-mortem or had any Diltiazem levels drawn during life.
Q Do you believe that this 2.6 blood ratio post-mortem -- Based on that 2.6 ratio, do you have any ability to estimate what Mr. McCornack's anti-mortem Diltiazem levels are?
MS. AHERN: Objection.
MR. TABER: Objection.
THE WITNESS: Well, I would agree that -- I think to

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be consistent, the answer would be no, just as we can't use an isolated Digoxin level obtained post-mortem to estimate anti-mortem Digoxin levels.

So, I'd agree with that.

BY MR. KILPATRICK:

Q Then, is it your opinion that his anti-mortem Diltiazem level contributed to his sudden cardiac death?

A Well --

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: Well --

BY MR. KILPATRICK:

Q That's your opinion, isn't it?

MS. AHERN: Objection.

THE WITNESS: I think the way I stated this is I said it may have contributed to his risk of arrhythmia.

So, the reason I said it that way was to acknowledge the difficulty in using post-mortem serum levels to try and estimate anti-mortem serum levels, number one.

And also to acknowledge the fact that Diltiazem has a direct effect on cardiac conduction, much more so than Digoxin, for the reasons that I stated earlier. So, I said that it may have been a contributing factor; I don't think I said categorically that it caused the

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death.
BY MR. KILPATRICK:
Q Well, how much significance do you attribute -- Strike that.
Do you think Mr. McCornack likely died of a Diltiazem overdose?
A As I said, I think at the outset, I think he died of his hypertensive and atherosclerotic cardiovascular disease. I don't think he died of a Digoxin overdose. We don't have any direct evidence that he died of a Diltiazem overdose, either.
Q So, you're saying you have no evidence of his Diltiazem levels, but nevertheless you believe it contributed, may have contributed, to his death? Do I have that right?
MR. TABER: Objection.
MS. AHERN: Objection.
THE WITNESS: I cannot rule out the possibility. Correct.
BY MR. KILPATRICK:
Q Can you rule out the possibility that he, Mr. McCornack, died of a Digoxin overdose or a Digoxin toxicity?
MS. AHERN: Objection.
THE WITNESS: Again, I've expressed my opinion

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earlier that I think it is very unlikely.
BY MR. KILPATRICK:
Q Okay. But possible?
MS. AHERN: Objection.
THE WITNESS: Very unlikely.
BY MR. KILPATRICK:
Q But you can't rule it out?
MS. AHERN: Objection.
MR. TABER: Objection.
THE WITNESS: Very unlikely.
BY MR. KILPATRICK:
Q Is that a response to my question? Can you rule it out?
MS. AHERN: Objection.
MR. TABER: Objection.
THE WITNESS: I think I've already stated my opinion about that. I think that it is -- it's a very unlikely -- it's very unlikely to have been a contributing cause to his death.
BY MR. KILPATRICK:
Q How is that different from just saying: No, I cannot rule that out?
MS. AHERN: Objection.
THE WITNESS: Because I think in all of my medical opinions, it's important that I express my opinions which

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often can't be expressed as a simple yes or no.
BY MR. KILPATRICK:
Q How about, are you comfortable saying: I think it's very unlikely he died of Digoxin poisoning, but I cannot rule it out?
MR. TABER: Objection.
MS. AHERN: Objection.
MR. TABER: Gary, you're six times the same question.
MR. KILPATRICK: Well, he's not answering my question. I'm trying to understand --
THE WITNESS: Well, your question specifically -- Can you read the question back to me, please?
MR. TABER: Not quite answered six times.
MR. KILPATRICK: Well, he hasn't answered it once.
MR. TABER: Yes. He's answered it as least five.
(Whereupon the record was read by the reporter.)
THE WITNESS: So, in specific answer to your question, no, I'm not comfortable.
BY MR. KILPATRICK:
Q Why not?
A I've already expressed that. I think that the likelihood of -- I think it is very unlikely. The likelihood of him having died of Digoxin overdose is very small, very unlikely.

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Q And what is it, why are you willing to testify that you're unable to rule out his death by Diltiazem toxicity, but not Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: I've said that the likelihood of him having died of Digoxin toxicity is very small.

BY MR. KILPATRICK:

Q True.

A Yes.

Q And you said that you could not rule out that Diltiazem was a potential cause of his death.

A Correct.

Q Why is it --

A But, I said -- but, I also said that my opinion is that the most likely cause of his death was his hypertensive and atherosclerotic cardiovascular disease.

Q I understand.

My question is based on what you know about Diltiazem and Diltiazem redistribution, and based upon what you know about Digoxin and Digoxin redistribution, why can you not rule out the possibility that Mr. McCornack died due to Diltiazem toxicity, but you are ruling out that he died of Digoxin toxicity?

MS. AHERN: Objection.

THE WITNESS: Well, when I say that the possibility

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is very, very unlikely, I am referring to both situations, or both medications.

It's not my opinion that he died of Diltiazem toxicity. It's my opinion that he died of his hypertensive and atherosclerotic cardiovascular disease.

BY MR. KILPATRICK:

Q But, you're not ready to rule out the possibility he died of Diltiazem toxicity; true?

MS. HERNANDEZ: Objection.

MR. TABER: Objection, he's not required to answer true/false questions. He can answer as he sees fit.

THE WITNESS: I've tried to answer that as best I can. I don't know how much more I can do.

BY MR. KILPATRICK:

Q Do you have any opinion about whether Mr. McCornack's death may have been caused by the existence of the trace amount of quinine or quinidine in his body?

A I -- I don't know what to make of the finding of the quinine in his blood. Apparently it was trace amounts. I don't have an opinion about that.

Q Can too much Digoxin in a person's blood cause a ventricular arrhythmia?

A Yes.

Q Is there any way to generalize a range or a -- a

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range of serum Digoxin in someone's blood that might cause a ventricular arrhythmia?

A No. Particularly since we see ventricular arrhythmias in patients who are not even taking Digoxin.

Q Well, that's true. But, did I misunderstand you? You stated that too much Digoxin in someone's blood could cause ventricular arrhythmia; is that accurate?

A I don't recall stating that. I was responding to your question so, if you'd like, we could go back and read exactly what you said and what my response was.

Q Well, we could do that.

But do you -- I'm just trying to find out what your opinion is. Is it accurate or inaccurate that an excessive amount of Digoxin in someone's blood can cause a ventricular arrhythmia?

A Yes, it may.

Q And in that situation, I want you to assume that that occurred; that someone had a high Digoxin level and they had a ventricular arrhythmia. Do you have any knowledge about what evidence you might find at an autopsy in that situation?

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: So, in a hypothetical situation of a patient who had a ventricular arrhythmia associated with

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Digoxin toxicity?
BY MR. KILPATRICK:
Q Correct.
A Yeah. Recognizing that we don't have any evidence, as I stated earlier, that Mr. McCornack was experiencing that situation.
Q That's your opinion.
A Yes.
Q I understand that.
A No. I don't think you'd find any specific findings at autopsy.
MR. TABER: Gary, would you mind if I took a quick break?
MR. KILPATRICK: Sure.
(Brief recess.)
BY MR. KILPATRICK:
Q Dr. Brown, do you recall, the back of Dr. Mason's autopsy report, his amended autopsy report, we had previously talked about this NMS blood -- the blood results provided on that report. You're familiar with that report?
A Yes.
Q Did you review the -- You said you reviewed the deposition of Mr. McMullin from NMS Labs.
A Yes.

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Q Do you have any criticism with the method or the results that NMS reported concerning Mr. McCornack's post-mortem blood?

A No.

MS. AHERN: Objection.

BY MR. KILPATRICK:

Q No criticisms of the procedures they used?

A No.

Q And 3.6, as far as you know, would have been an accurate level of his post-mortem blood samples?

MS. AHERN: Objection.

THE WITNESS: You mean at that moment in time, irrespective of its clinical importance?

BY MR. KILPATRICK:

Q That's right.

A Yes.

Q You agree that it, as far as you know, accurately reflects Mr. McCornack's Digoxin levels 78 hours, approximately, after his death?

A Well, with the qualification that it probably reflects his axillary vein serum Digoxin level.

Q Okay.

A 72 hours after death.

Q Okay. And what does a peripheral blood sample mean to you?

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A To me, it typically means from the extremities, from the elbow down in the upper extremity or below the knees to the lower extremity, in general.

Q And was the axillary vein sample that Dr. Mason took of Mr. McCornack's blood, is that generally of a peripheral blood sample?

MR. TABER: Objection.

MS. AHERN: Objection.

THE WITNESS: I can't speak to post-mortem sampling. Certainly, when we're accessing the axillary vein clinically, we're doing that to get at what we call a central venous sample, a part of the central venous circulation.

Well, on occasion, we use the axillary vein for access to the central venous system.

Q Well, I'm not sure I understand your answer. I'm trying to see if maybe you can just -- if there is a simple answer to this.

Is a blood sample taken from someone's wrist vein a peripheral blood sample, in your mind?

A In my mind, yes.

Q Let me ask you a couple of questions about your file there. How did you receive all the records from the attorneys?

And what I'm getting at is did they send you

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those binders with the paper? Did they send you a CD?

A I think it was both. Some records came initially on CD, some records came primarily in paper form, many in both. There may have been some that came as attachments to e-mails, although I don't recall specifically.

Q Did you assemble the binders or were the binders sent to you assembled in the way that they appear now?

A Those -- those particular binders were assembled before I received them. I did not assemble them.

Q And the copies I slipped through, I saw a couple of yellow sticky tabs. I didn't see any handwritten notes, any highlighting. Is that your office copy?

The box that we're looking at, is that the copy of documents that you were reviewing for this case?

A Well, as I mentioned, some of the times, some of the records may have initially come as CD's. So, if that was the case, I would have reviewed them on my computer.

Q Let me ask it another way. Did you take any notes about any of the documents that you reviewed?

A No.

Q You didn't write down any notes on anything?

A With the exception of what I typed here, no.

Q Okay.

A The declaration itself.

PLAINTIFFS' EXHIBITS 011541

Q Okay. Your expert report.
A Yes.
Q Other than the depositions that you've listed in your expert report, have you reviewed any other depositions before or after rendering your expert opinion or preparing your expert report?
A None -- none that I haven't listed that I reviewed before preparing my report. I think I've received some since I've prepared my report.
Q And can you tell me whose depositions those were?
A I -- Let's see. The date of my report is May 23rd and it looks as though I received the reports of Amy McMaster, M.D.; Kenneth Hurd, M.D.; and William Gallanter, M.D., after the mailing date of June 2nd.
And there may have been one other -- Let me see. Let's see.
So, I think I received the deposition of Dr. Gibson after I prepared my report, since that was obtained on June 14th of 2011. And I most recently received the deposition of Dr. Edward Barbieri that was taken on July 20th.
Q Okay. And you reviewed that deposition?
A Yes.

PLAINTIFFS' EXHIBITS 011542

Q Anything else?

A I think I may have received the report and the attachments of Dr. Gibson after I prepared my report. The report is dated -- my report is dated May 23rd and his letter to Mr. Ernst is dated May 16th.

I don't think it's listed as one of the things I reviewed beforehand, so I think this was afterwards. Meaning, Gibson -- Gibson's report.

Q Well, on page two of your report you identified the report of Keith Gibson, PharmD. Does that refresh your recollection of whether you reviewed that --

A I may have received it in electronic form, before I prepared my report. I don't recall specifically.

Q Okay. Any other documents?

A I don't think so.

Q Any of the documents that you just identified, did they cause you to change your opinion as expressed in your report in any way?

A No.

MR. KILPATRICK: All right. Hunter, let me ask you. I'm trying to figure out whether to attach his file to the depo and do you know -- I mean, it just looks like such a neat printout. Is there a CD that contains all that stuff that we could that we could put together?

PLAINTIFFS' EXHIBITS 011543

MS. AHERN: We could put it on a CD but I think that, you know, some things that we received, we may have sent electronically, some things we may have sent on CD and some, like he said, we probably sent in print form so we'd save on printing costs for the records.

MR. KILPATRICK: Right.

MS. AHERN: So, we could go back if you want to. I know what we've sent and we could reproduce that electronically, if you like. And since I don't think he took notes on it, if that's okay with you --

MR. KILPATRICK: Yeah. That would be great. That would save me --

MS. AHERN: You don't want to pack it up with you; right?

MR. KILPATRICK: I don't. I don't want to pack it up and I'm trying to avoid the horrible expense associated with --

MS. AHERN: I can do that. I'll reproduce everything that we sent to Dr. Brown.

MR. KILPATRICK: Okay.

MS. AHERN: And well get that to you on a CD.

MR. KILPATRICK: That would be great.

MS. AHERN: Okay.

MR. KILPATRICK: Give me just a moment to look at my notes.

PLAINTIFFS' EXHIBITS 011544

(Brief recess.)

MR. KILPATRICK: Do you think you could give me that CD by next week?

MS. AHERN: Yeah.

MR. KILPATRICK: Okay. That would be great. Other than that, I don't have any other questions.

MR. TABER: No questions.

MS. AHERN: No questions.

MR. KILPATRICK: Okay. Well, Dr. Brown, thank you very much.

And what do you want to do about signing the depo? How do you guys want to do that?

MS. AHERN: I would suggest that you read and sign.

MR. TABER: What was that?

MS. HERNANDEZ: Read and sign.

MR. TABER: Read it?

MS. AHERN: Yes. So, you'll get a copy of your deposition.

THE WITNESS: Yes. I'd like to read it. Yes.

MS. AHERN: We'll read and sign.

MR. KILPATRICK: Okay. I guess we're done. Thank you.

THE REPORTER: Did you both want copies?

MS. AHERN: Yes.

THE REPORTER: Mr. Taber?

PLAINTIFFS' EXHIBITS 011545

MR. TABER: Yes.

(Plaintiff's Exhibit 4 marked for identification by the Reporter.)

(Whereupon the deposition proceedings were concluded at 4:10 p.m.)

STATE OF CALIFORNIA)
) SS.
COUNTY OF VENTURA.)

I, C. ALAN BROWN, M.D., hereby certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of _____, 2011, at _____, California.

_____
C. ALAN BROWN, M.D.

PLAINTIFFS' EXHIBITS 011546

STATE OF CALIFORNIA)
) ss
COUNTY OF VENTURA)

I, DENA BROOKS, Certified Shorthand Reporter NO. 3113, in and for the State of California, do hereby certify:

That prior to being examined, the witness named in the foregoing deposition was by me duly sworn to testify the truth, the whole truth, and nothing but the truth;

That said deposition was taken before me pursuant to notice, at the time and place therein set forth, and was taken down by me in shorthand and thereafter transcribed into typewriting under my direction and supervision;

That it was stipulated by counsel that said deposition may be read, corrected and signed by the witness;

I further certify that I am neither counsel for, nor related to, any party to said action, nor in anywise interested in the outcome thereof.

In witness whereof, I have hereunto subscribed my name this Date 12th day of August, 2011.

_____
Certified Shorthand Reporter

PLAINTIFFS' EXHIBITS 011547